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| EXAMINER |
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YALEW, FIKREMARIAM A

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2136

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05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/618,127 | Applicant(s) DOMMETY ET AL. | |
| | Examiner Fikremariam Yalew | Art Unit 2136 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The office action is in replay to an amendment filed on 02/13/2007. Claims 1-5,12,23-25 have been amended. Claims 26-39 are added. Claims 1-39 are pending.
2. The examiner withdraws 35 U.S.C 101 rejection based on the applicant amendment.

Response to Arguments

3. **Applicant's arguments filed on 02/13/2007 have been fully considered but they are not persuasive.**
4. Regarding to claims 1,12 the applicant argued that Sharma teaches authorized network devices not subsystems of a network element. The examiner disagree and points out that the claim limitation "subsystems of a network element" is very broad term therefore the examiner interpreted the authorized network device as subsystems of network element. Further the applicant points out "that the claimed approach recognizes that the DHCP subsystems should be treated as inherently trusted" but the examiner doesn't see that future on claims 1 or 12.
5. Regarding to claims 6-8,10-11: the applicant argued that Sharma does not suggest or teach "if the particular network address is not contained in the set, then updating the ARP table based on the instruction; if the particular subsystem is not authorized then performing the steps of determining whether a particular network address indicated by the instruction is contained in a set of one or more specified

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network; wherein the ARP table is updated only in response to instructions that are not ARP messages; determining whether the particular subsystem is a Hypertext Transfer Protocol(HTTP server) "The examiner disagree and points out Sharma teaches if the particular network address is not contained in the set, then updating the ARP table based on the instruction(See Fig 5 step 504 and col 7 lines 1-9); if the particular subsystem is not authorized then performing the steps of determining whether a particular network address indicated by the instruction is contained in a set of one or more specified network(See col 7 lines 1-9 and Fig 5 step 504); wherein the ARP table is updated only in response to instructions that are not ARP messages(See col 3 lines 6-34); determining whether the particular subsystem is a Hypertext Transfer Protocol(HTTP server)(See col 4 lines 22-51)

6. Regarding to claim 12:the applicant also argued that Sharma does not suggest or teach determining whether a particular network interface through which the instruction was received is contained in a set of one or more specified network interface. The examiner disagree and points out Sharma teach determining whether a particular network interface through which the instruction was received is contained in a set of one or more specified network interface (See col 1 line 66 through col 2 line 30 and col 5 line 44 through col 6 line 10(i.e., network device on a common subnet)).

7. **Applicant's arguments with respect to claims 2-5 and 14-22 have been considered but are moot in view of the new ground(s) of rejection.**

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1,6-8,10-13,23-25,30-32,37-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Sharma et al (hereinafter referred as Sharma) US 6,754,716.

10. As per claims 1,23-25: Sharma discloses a method/computer-readable medium/apparatus of restricting Address Resolution Protocol (ARP) table updates to updates originating from authorized subsystems, the method comprising: receiving an instruction to update an ARP table(See Fig 6 step 602 and col 2 lines 39-43);determining whether a particular subsystem within a network device from which the instruction originated is authorized(See Fig 6 step 604 and col 3 lines 12-34, Fig 1 step 106); and if the particular subsystem is authorized(See Fig 6 step 604 and col 3 lines 12-34), then updating the ARP table based on the instruction(See Fig 6 step 606 and col 2 lines 55-65 and col 7 lines 9-19)

11. As per claims 6,30,37: Sharma discloses the method further comprising: if the particular subsystem is not authorized, then preventing the ARP table from being updated based on the instruction.(See Fig 5 step 504)

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12. As per claims 7,31,38: Sharma discloses the method further comprising: if the particular subsystem is not authorized, then performing the steps of: determining whether a particular network interface through which the instruction was received is contained in a set of one or more specified network interfaces (See col 5 line 44 through col 6 line 10 and Fig 5 steps 502, 504); if the particular network interface is contained in the set, then preventing the ARP table from being updated based on the instruction (See Fig 5 step 504 and col 7 line 1-9); and if the particular network interface is not contained in the set, then updating the ARP table based on the instruction(See Fig 5 step 504 and col 7 line 1-9).

13. As per claims 8,32,39: Sharma discloses the method further comprising: if the particular subsystem is not authorized, then performing the steps of: determining whether a particular network address indicated by the instruction is contained in a set of one or more specified network address (See col 5 line 44 through col 6 line 10 and Fig 5 steps 502, 504); if the particular network address is contained in the set, then preventing the ARP table from being updated based on the instruction (See Fig 5 step 504 and col 7 line 1-9); and if the particular network address is not contained in the set, then updating the ARP table based on the instruction(See Fig 5 step 504 and col 7 line 1-9).

14. As per claims 10: the method wherein the ARP table is updated only in response to instructions that are not ARP message (See col 3 lines 6-34).

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15. As per claim 11: the method wherein determining whether the particular system is authorized comprises determining whether the particular subsystem is a Hypertext Transfer Protocol (HTTP) server (See col 4 lines 22-51).

16. As per claim 12: Sharma discloses a method of restricting Address Resolution Protocol (ARP) table updates to updates originating from authorized subsystems, the method comprising: receiving an instruction to update an ARP table(See Fig 6 step 602 and col 2 lines 39-43); determining whether a particular network interface through which the instruction was received is contained in a set of one or more specified network interfaces(See col 5 line 44 through col 6 line 10); determining whether a particular network address indicated by the instruction is contained in a set of one or more specified network addresses(See Fig 6 step 604 and col 3 lines 12-34); if the particular network interface is not contained in the set of one or more specified network interfaces, and if the particular network address indicated by the instruction is not contained in the set of one or more specified network addresses, then updating the ARP table based on the instruction(See col 2 lines 55-65 and col 7 lines 1-9); and if the particular network interface is contained in the set of one or more specified network interfaces, or if the particular network address is contained in the set of one or more specified network addresses, then performing steps comprising: determining whether a particular subsystem from which the instruction originated is authorized(See Fig 6 step 604 and col 3 lines 12-34); if the particular subsystem is authorized, then updating the ARP table based on the

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instruction(col 7 lines 9-15); and if the particular subsystem is not authorized, then preventing the ARP table from being updated based on the instruction(See col 7 lines 1-9).

17. As per claim 13: Sharman discloses wherein receiving the instruction to update the ARP table comprises receiving and ARP message that indicates an association between a network layer address and a data link layer address.(See Fig 2 step 200 and Fig 6 step 606)

18. Claims 2-5,26-29,34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al (hereinafter referred as Sharma) US 6,754,716 in view of Wilson (US Pub No 2001/0054101).

19. As per claim 2,26,33: Sharma discloses claim 1 as recited above. Sharma does not disclose the particular subsystem is a Dynamic Host Configuration Protocol Server, an Authentication, and Authorization, Accounting (AAA) server or a Network Address Translator (NAT).

However Wilson teaches the particular subsystem is a Dynamic Host Configuration Protocol Server, an Authentication, and Authorization, Accounting (AAA) server or a Network Address Translator (NAT)(See 0007 Fig 3 steps 314,316).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Sharma to include a Dynamic Host Configuration Protocol Server, an Authentication, and Authorization, Accounting (AAA) server or a Network Address Translator (NAT).

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Sharma (See col 1 line 66 through col 2 line 3) in order to restrict communications between network devices on common subnet such as any network devices can be restricted to communicating only with a predefined set of authorized or validated network devices.

20. As per claims 3,27,34: Sharma discloses claim 1 as recited above. Sharma does not disclose the method wherein determining authorized comprise determining whether a Dynamic Host Configuration Protocol (DCHP) server is authorized.

However Wilson teaches the method wherein determining authorized comprise determining whether a Dynamic Host Configuration Protocol (DCHP) server is authorized (See 0007 Fig 3 steps 314,316).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Sharma to include the method wherein determining authorized comprise determining whether a Dynamic Host Configuration Protocol (DCHP) server is authorized.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Sharma (See col 1 line 66 through col 2 line 3) in order to restrict communications between network devices on common subnet such as any network devices can be restricted to communicating only with a predefined set of authorized or validated network devices.

21. As per claims 4,28,35: Sharma discloses claim 1 as recited above. Sharma does not disclose the method wherein determining whether the particular system is authorized comprises determining whether the particular subsystem is NAT server.

However Wilson teaches the method wherein determining whether the particular system is authorized comprises determining whether the particular subsystem is NAT server. (See 0007 Fig 3 steps 314,316)

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Sharma to include determining whether the particular system is authorized comprises determining whether the particular subsystem is NAT server.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by (See col 3 lines 16-19) in order to restrict communications between network devices on common subnet such as any network devices can be restricted to communicating only with a predefined set of authorized or validated network devices.

22. As per claims 5,29,36: Sharma discloses claim 1 as recited above. Sharma does not disclose the method wherein determining whether the particular system is authorized comprises determining whether the particular subsystem is an authentication authorization accounting (AAA) server.

However Wilson teaches determining whether the particular system is authorized comprises determining whether the particular subsystem is an authentication authorization accounting (AAA) server (See 0007 Fig 3 steps 314,316)

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Sharma to include a Dynamic Host Configuration Protocol Server, an Authentication, and Authorization, Accounting (AAA) server or a Network Address Translator (NAT).

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Sharma(See col 1 line 66 through col 2 line 3) in order to restrict communications between network devices on common subnet such as any network devices can be restricted to communicating only with a predefined set of authorized of validated network devices..

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al (hereinafter referred as Sharma) US 6,754,716 in view of Massarani (US 6,393,484 B1).

24. As per claim 9: Sharma discloses claim 1 as recited above. Sharma does not disclose the method comprising determining whether a specified amount of time has passed since a time indicated by a timestamp associated with an entry in the ARP table; and if the specified amount of time has passed then removing the entry from the ARP table.

However Massarani teaches the method comprising determining whether a specified amount of time has passed since a time indicated by a timestamp associated with an entry in the ARP table; and if the specified amount of time has passed then removing the entry from the ARP table (See abstract and See Fig 7 steps 701).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Sharma to include determining whether a specified amount of time has passed since a time indicated by a timestamp associated with an entry in the ARP table; and if the specified amount of time has passed then removing the entry from the ARP table.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Massarani(See col 3 lines 16-19) inorder to prevent unauthorized devices and users from obtaining network services in a dynamic user address environment.

25. Claims 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable Massarani (hereinafter referred as Massarani) US 6,393,484 B1 in view of Chien et al(hereinafter referred as Chien(US Pub No 20030115345).

26. As per claim 14: Massarani discloses the method of sending an instruction to update an Address Resolution Protocol (ARP) table in a system in which ARP table updates are restricted to updates originating from authorized subsystems, the method comprising: in response to receiving the message, determining whether the network layer address is bound with a data link layer address in the ARP table (See Fig 3 step 310 and col 5 lines 31-54); and only (See Fig 3 step 310 and col 5 lines 31-54); and if the network layer address is not bound with a data link layer address, then sending an instruction to update an ARP table(See Fig 4 step 416 and col 5 lines 31-54)

Massarani does not explicitly teach receiving a request to update the ARP table from a Dynamic Host Configuration Protocol (DHCP) in a DHCP message that indicates a network layer address (See Fig 3 step 308 and col 5 lines 31-54);

However Chien teaches receiving a request to update the ARP table from a Dynamic Host Configuration Protocol (DHCP) in a DHCP message that indicates a network layer address (See paragraph 0063-0066).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Massarani to include receiving a request to update the ARP table from a Dynamic Host Configuration Protocol (DHCP) in a DHCP message that indicates a network layer address.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by Massarani (See col 3 lines 16-19) in order to prevent unauthorized devices and users from obtaining network services in a dynamic user address environment.

27. As per claim 15: the combination of Massarani and Chien disclose the method wherein the instruction is to update the ARP table to contain a binding between the network layer address and data link layer address of a DHCP client that sent the message (Massarani col 5 lines 31-54)

28. As per claim 16: the combination of Massarani and Chien disclose the method comprising determining whether a lease associated with the network layer address has expired (See Massarani col 7 lines 27-37); and if the lease has expired, then sending an instruction to update the ARP table (See abstract).

29. As per claim 17: the combination of Massarani and Chien disclose the method determining whether a lease associated with the network layer address has expired (See Massarani col 7 lines 27-37); and if the lease has expired, then sending an instruction to remove, from the ARP table, an entry that contains the network layer address (See Massarani col 7 lines 27-37).

30. As per claim 18: the combination of Massarani and Chien disclose the method comprising receiving a particular DHCP message requests an extension of a lease (See abstract); and response to receiving the particular DHCP message, sending an instruction to update the ARP table (See Massarani abstract).

31. As per claim 19: the combination of Massarani and Chien disclose the method comprising receiving a particular DHCP message that relinquishes a lease (See abstract); and in response to receiving the particular DHCP message, sending an instruction to update the ARP table (See Massarani abstract).

32. As per claim 20: the combination of Massarani and Chien disclose the method comprising if the network layer address is not bound with a data link layer address, then sending an instruction to start a process in connection with the network layer address (See Massarani col 5 lines 25-54).

33. As per claim 21: the combination of Massarani and Chien disclose the method comprising determining whether a lease associated with the network layer address has expired (See Massarani Fig 6 step 603); and if the lease has expired, then sending an instruction to stop a process in connection with the network layer address (See Massarani Fig 6 step 603 and col 7 lines 9-23).

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34. As per claim 22: the combination of Massarani and Chien disclose the method comprising receiving a particular DHCP message that relinquishes a lease (See Massarani Fig 6 step 601); and in response to receiving the particular DHCP message, sending an instruction to stop a process in connection with the network layer address (See Massarani Fig 7 step 704 and col 7 lines 9-23).

Conclusion

35. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fikremariam Yalew whose telephone number is 5712723852. The examiner can normally be reached on 9-5.

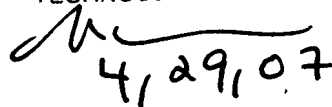
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moazzami Nasser, can be reached on 5712738300. The fax phone number for the organization where this application or proceeding is assigned is 571-272-4195.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fikremariam Yalew
04/27/07
FA

Art Unit 2136

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100


4,29,07